National Institute of Environmental Health Sciences

Issues of drinking water quality of small scale water services towards climate change

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Abstract:

As climate change could impact water quantity and quality, important concerns are related to water quality degradation in small scale water services (SSWS). SSWS using surface waters resources (rivers and lakes) for drinking water production are particularly vulnerable to short term transient events due to their low adaptation capacity and their lack of support and technical knowledge compared to major centralized systems. Based on weather and water quality databases, a case study was conducted on a SSWS in Brittany (France) pumping from surface water. Results show an important vulnerability in treatment efficiency related to the lowest and highest river flows and provide first assumptions about the impacts of an increase in extreme weather events with climate change on drinking water quality.

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Resource Description

Exposure : ☒

weather or climate related pathway by which climate change affects health

Extreme Weather Event, Food/Water Quality, Food/Water Security

Geographic Feature: ☒

resource focuses on specific type of geography

Freshwater

Geographic Location: ☒

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : France

Health Impact: ☒

specification of health effect or disease related to climate change exposure

General Health Impact, Infectious Disease

Infectious Disease: Foodborne/Waterborne Disease

Foodborne/Waterborne Disease: General Foodborne/Waterborne Disease

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content